UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

Sweet

FILE

September 2, 1998

Reply To
Attn Of: ORC-158

Mike Cooper
McCulley, Frick & Gilman, Inc.
4900 Pearl East Circle, Suite 300W
Boulder, CO 80301

Re: Union Pacific Railroad Wallace-Mullan Branch Rails-to-Trails Conversion - Draft EE/CA

Dear Mike:

Attached for incorporation into the next revision of the subject EE/CA are EPA's comments following its "regulatory review." These comments are based upon review of the draft EE/CA dated August 21, 1998, which explicitly did not address comments that EPA had previously submitted on Section 3.2.3 (ARARs). Thus, comments on Section 3.2.3 are based upon the preceding draft, dated June 10, 1998, and our previous comments upon that draft.

The attached comments do not consider revisions MFG has made to Section 3.2.3 as reflected in the revision dated September 1, 1998, received yesterday by fax. Because of the number of drafts now circulating, I would prefer to set the September 1 revision aside and wait to review the draft incorporating our comments attached to this letter.

The attached comments also do not address the latest draft of the streamlined Human Health Risk Assessment. Comments on the streamlined HHRA will be discussed and addressed separately.

As with our last set of comments, EPA does not believe that any of our current comments entail significant added effort or cost. Also as before, if you have any questions or concerns reading or interpreting these comments, please give me or Earl Liverman a call.

Sincerely,

Clifford J. Villa
Assistant Regional Counsel

## 2.0 SITE CHARACTERIZATION

This section of the EE/CA provides general information regarding the ROW, including the location, type of operation, and a synopsis of the rail line history. The geography and topography of the area are described, along with descriptions of the regional geology and soils, adjacent land use, population of the cities and towns along the branch line, meteorology, and sensitive ecosystems. Previous response and remedial actions that have occurred along the ROW are also described. As a basis for consideration of possible response actions, information related to the source, nature, and extent of contamination associated with the ROW are presented, including analytical data from sampling efforts to characterize conditions along the ROW. Finally, a stream-lined risk assessment was performed to provide an overall view of the potential impacts to human health.

### 2.1 SITE LOCATION

The ROW is located in the northern panhandle of Idaho and passes through Benewah, Kootenai, and Shoshone counties. The 71.5-mile ROW covers a total area of approximately 1,400 acres, extending from Plummer to Mullan, Idaho. The rail line was operated until 1991 by Union Pacific and is known as the Wallace-Mullan Branch of the UP Railroad. The location of the Wallace-Mullan Branch is shown on Figure 1. This EE/CA addresses the ROW for the main line and related sidings of the Wallace-Mullan Branch, but does not address any spurs or connecting branch lines. The 7.9 mile section of the line within the BHSS is also excluded from this EE/CA, as well as the non-siding areas of the Wallace Yard outside a 26-foot-wide corridor bracketing the main line. or any other areas within the ROW not specifically addressed in this EE/CA. EPA expects that any remaining areas of the ROW posing an unacceptable threat to human health or the environment will be addressed through future response actions. The Wallace-Mullan Branch is a combination of the eastern end of the Wallace Branch and the entire Mullan Branch. The Wallace Branch portion extends for 63.8 miles from approximately Milepost 16.6 at Plummer Junction to Milepost 80.4 in Wallace. The Mullan Branch extends 7.6 miles from Milepost 0 at Wallace (coincident with the eastern terminus of the Wallace Branch) to the east side of Mullan at Milepost 7.6.

MOVE TO 3.2.1 AND REPLACE 1st SENTE 2d PARA.

The westernmost end of the Wallace Branch begins in Benewah County, at Milepost 16.6, and traverses east-northeast to Milepost 30, near Harrison (see Figure 2). Within this segment of the ROW, the route passes through Heyburn State Park and crosses Lake Coeur d'Alene via a 3,179-foot long trestle bridge, including a 224-foot swing span section. At the east end of the trestle bridge, the line turns north and follows the east shore of the lake. The ROW enters Kootenai County at approximately Milepost 24.5. As the ROW passes through the community of Harrison, it sweeps to the east and begins a route roughly parallel to the main stem of the CDR. This stretch of the rail line, from Harrison to Enaville, traverses the Lower Basin of the CDR (see Figure 3). The confluence of the north and south forks of the CDR is at Enaville. From this point eastward the ROW alignment follows the South Fork through the Upper Basin to the eastern terminus in Mullan (see Figure 4).

### 2.2 TYPE OF FACILITY & OPERATIONAL STATUS

This section provides a brief overview of the history of the rail line construction and its operation, as pertinent to the development of response actions for the ROW. As noted previously, the key human health and environmental concerns are related to the presence of mill tailings and some mining concentrates in the ballast section of the rail bed and adjacent lateral zones of the

The direct exposure pathway (inhalation and/or ingestion) is of greater concern along the mainline rail bed and in siding areas known to have been used for loading/unloading, and shunting or storage of cars containing mine products, ore, and concentrates. These areas have demonstrated the highest soil lead levels and are physically the most accessible areas of the ROW. The exposure pathway of secondary concern (migration to surface water) has the highest probability of occurrence along the river banks where potentially contaminated ROW soils are most susceptible to erosion. The potential exposure hazard to human receptors is discussed in the streamlined risk evaluation section.

## 2.11 STREAMLINED RISK EVALUATION

### 2.11.1 Human Health Risk

The streamlined risk assessment, the full text of which is included as Appendix A to this EE/CA, addresses potential human health hazards associated with use of the ROW by sensitive population groups. The methodology for the risk assessment follows the analysis and techniques employed in the *Human Health Risk Assessment for the Non-Populated Areas of the Bunker Hill NPL Site* (SAIC, 1992) and *Risk Assessment Guidance for Superfund: Human Health Evaluation Manual Part A* (EPA, 1989). The risk assessment considers three basic exposure scenarios (residential, recreational and occupational) and a range of contaminants. Two population groups are identified as being most sensitive for purposes of this EE/CA. These two groups are: 1) children six to 15 years of age in a recreational scenario; and 2) pregnant women in occupational exposure scenarios. The assessment focuses on soil ingestion as the primary exposure pathway and considers conditions in representative sections of the ROW throughout its length. For purposes of the assessment, the ROW was subdivided into 13 characteristic subsections.

Due to its higher concentrations, the primary contaminant of concern is identified as lead. Secondary contaminants of concern include zinc, cadmium, and arsenic. Other possible contaminants, including agricultural chemicals, petroleum products, poly-chlorinated biphenyls (PCBs), polycyclic-aromatic-hydrocarbons (PAHs), and corrosive ash, were not addressed ~~as there is no reason to expect these contaminants to be present within the ROW~~.

Three subsets of exposure parameters are applied in the analyses. The first subset consists of the parameters used in the Bunker Hill Superfund Site Non-Populated Areas risk assessment. The second subset is the Modified Trail scenario that increases exposure frequency, contaminant bioavailability and dose-response rates for lead, that reflect greater contact times associated with a developed recreational facility and the range of absorption parameters that could apply. The third subset is a Reasonable Maximum Exposure (RME) scenario, which increases exposure and soil ingestion rates to levels recommended by Region X EPA Guidance.

Recognizing that the ROW is a narrow, continuous strip of land, within the much larger Coeur d'Alene Basin, the risk assessment considers only those behaviors and activities that may result in exposure to soils and dusts on the ROW properties, and focuses on an assessment of the incremental risks that may result from usage of the ROW by residents and visitors to the area. The quantitative analyses in the assessment are limited to the removal action and evaluation of the reduction in exposures and of risk associated with subsequent use of the ROW. The assessment does not address other contaminants of concern, other exposure routes, nor exposures that may occur through activities beyond the ROW (i.e., camping, fishing, swimming, etc.) that individuals using the ROW might experience.

# 3.0 IDENTIFICATION OF RESPONSE ACTION OBJECTIVES

This section establishes the fundamental basis for the selection of response actions to be implemented within the ROW, including 1) any statutory limits (value or time frame) applicable to implementation of the remedy; 2) the overall scope, goals and objectives of the response actions; and 3) the schedule for implementation of response activities.

## 3.1 STATUTORY LIMITS

UPRR is the sponsor of the proposed removal action. Thus, the statutory limits (ceiling and duration) for fund-financed removal actions do not apply.

A proposed non-time critical removal action that costs more than $30 million or is more than $10 million and is 50% greater in cost than the least-costly, protective, ARAR-compliant alternative, may trigger review by the EPA National Remedy Review Board (NRRB). If necessary, EPA will ensure that proposed cleanup strategies receive appropriate NRRB review.

## 3.2 SCOPE, GOALS AND OBJECTIVES

### 3.2.1 Scope of the Remedy

As indicated earlier, the Wallace-Mullan Branch ROW extends approximately 71.5 miles across the panhandle of northern Idaho. The ROW varies in width from 50 feet to 300 feet. In addition to the rails, ties, and other track materials (OTM), the railroad infrastructure includes numerous bridges, culverts, miscellaneous loading/unloading structures, and a number of building remnants. There are also a number of areas where adjacent land owners have acquired lease rights or have encroached onto the ROW and have constructed buildings, fences, mine waste facilities and other works unrelated to the railroad.

~~Consideration of response actions under this EE/CA is limited to the main line and related siding areas of the Wallace-Mullan Branch, and excludes the 7.9 mile section of ROW within the BHSS, as well as former spurs and branch lines and the non-siding areas of the Wallace Yard outside a 26-foot-wide corridor bracketing the main line~~. All of the remedies contemplated would be implemented in conjunction with or immediately following the removal (salvage) of the track structure. The salvage of the track structure will not include the removal of bridges or any other structures of potential historic significance.

REPLACE WITH ¶ From 2.1

### 3.2.2 Goals and Objectives of the Response Actions

The objective of the response actions is the protection of human health and the environment, including the minimization of the potential for direct contact and the potential for mobilization of contaminants by wind or water. A second objective of the response action is to assure compliance with all Applicable or Relevant and Appropriate Requirements (ARARs), to the extent practicable. Collateral benefits will include preservation of the integrity of the existing transportation/communication corridor to provide public access to adjacent recreational areas/natural resources and to facilitate other cleanup actions within the Basin.

### 3.2.3 Compliance with ARARs and Other Criteria

Under the Clean Air Act, 42 U.S.C. § 7401 et seq., and the Idaho Air Pollution Act, § 16.01 et seq., there may be, respectively, chemical-specific ARARs for emission of lead and particulates, and action-specified ARARs for control of fugitive dust during remediation. Additional ARARs and other criteria are identified in Table 3-1.

A number of ~~the other~~ potential ARARs have already been identified as substantive requirements set out in the Interstate Commerce Commission (now Surface Transportation Board [STB]) Decision (November 28, 1994), regarding abandonment of the ROW. The Decision addresses salvage of the track structure, which is a necessary precursor to the remediation of the rail line ballast and adjacent portions of the ROW. The essence of these requirements are as follows:

- Railroad infrastructure, including rails and ties, shall not be salvaged until there has been consultation with the Idaho Department of Environmental Quality (IDEQ) and the EPA, to ensure that such salvage activities will be in compliance with CERCLA (42 U.S.C. 9601 et. seq.), RCRA (42 U.S.C. 6901 et seq.), and other applicable laws and regulations.

Table 10-3
Federal Action-Specific ARARs

| Action-Specific | Citation | Prerequisite | Requirement | Location |
|---|---|---|---|---|
| 8. Closure requirements | RCRA/HWMA 40 CFR §264, Subpart G | Closure of hazardous waste repositories must meet protective standards. | Protectiveness will be achieved through capping and institutional controls. | CIA, Page Pond |
| 9. Ground Water Monitoring | RCRA/HWMA 40 CFR §264, Subpart F | Establishes standards for detection and compliance monitoring. | Site wide monitoring will accommodate specific ground water monitoring requirements. | Smelterville Flats, Page Pond, CIA, MOA, and Hillsides |
| 10. NPDES Storm Water Discharge | 40 CFR Part 122.26 | Establishes permitting process and discharge regulations for storm water. | Relevant and appropriate for alternatives where mine material comes into contact with storm water or snowmelt. | Site Wide |
| To be Considered Materials | | | | |
| BMPs for Soils Treatment Technologies | U.S. EPA Office of Solid Waste and Emergency Response, ~~Best Management~~ Practices (BMPs) for Soils Treatment Technologies (May 1997) | Excavation or containment of contaminated soils | Technologies for controlling cross-media transfer of contaminants during materials handling activities | |

http://www.epa.gov/epaoswer/hazwaste/ca/bmpfin.pdf

- Institutional Controls
  - Imposition of land use restrictions, establishment of rules and regulations to govern future access to and use of the ROW, installation of physical barricades and warning signs, and providing educational programs for potential ROW users.

- Source Containment
  - Physical actions, including installation of protective barriers (asphalt, gravel, soil, vegetation) to contain potentially contaminated materials (in-place or in localized consolidation areas) and thereby prevent direct contact and control mobilization.

- Removals
  - Excavation of potentially contaminated source materials
  - Disposal ~~on-site~~ (within the Basin) or ~~off-site~~ (commercial TSD facility outside Basin). ~~(Disposal within the ROW, with the exception of small, localized consolidation and containment areas beneath protective barriers, was not considered, because the limited ROW width is not conducive to development of disposal facilities)~~

- Treatment
  - Implementation of physical, chemical or biological processes to reduce the toxicity, mobility, and/or volume of contaminated materials.

## 4.2 INITIAL SCREENING OF POSSIBLE RESPONSE ACTIONS

Given the various settings and conditions encountered along the 71.5 miles of ROW, and the information developed through remediation of the ROW within the BHSS, the initial screening of potential response actions for this EE/CA was conducted by performing general evaluations of implementability, effectiveness, and cost for the categories listed above. Additional detail as to the possible scope of specific actions that may be considered for various portions of the 71.5-mile ROW are also provided. The initial screening of actions includes consideration of the following:

- Implementability
  - Technical viability and practical feasibility
  - Availability of labor, material and equipment resources
  - Agency and community acceptability

- Effectiveness
  - Degree to which response action contributes to protectiveness of human health and the environment and achievement of response action objectives
  - Long-term reliability and short term effectiveness.
  - Compliance with ARARs

- Cost
  - Relative capital and O&M costs (low, moderate or high)
  - Past experience, independent estimates and engineering judgment

The results of the initial screening provide a basis for determination of which of the possible response actions should be retained for further evaluation. Following are brief summaries of the potential actions within a given response action category (under the subheading of "scope") and the

- Installation of fencing or barricades in selected areas (e.g., populated areas and other locations where ready access to the ROW is available) and posting of appropriate warning signs would entail moderate capital and O&M costs.
- Limitation of ICs to posting of warning signs at key locations would entail only low capital and O&M costs. / Where? Inside the Box?
- ICs in established communities, where the community incorporates the ROW, would entail low costs because ICs programs are already in place.
- ICs costs in rural areas would still be low, but slightly higher than in established communities under the control of an existing entity.

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ICs, if properly established and enforced in conjunction with other physical remedies, can effectively increase the protectiveness and durability of such remedies. The benefits of ICs would be maximized if they were implemented uniformly throughout the length of the ROW, consistent with the applicable setting and future use conditions at respective locations.

4.4.2 Containment

Containment of contaminated source materials would involve maintenance of existing vegetation in areas of the ROW where it is well established or placement of new protective barriers of vegetated soil, gravel, rip rap, or asphalt pavement over specified areas of concern. Most containment of contaminated materials would be conducted in-situ, with the appropriate barrier layer being placed directly over the contaminated material in its current location. In selected locations, small, localized accumulations of ballast or other similarly contaminated materials may be excavated and consolidated with other similar materials under a secure barrier in a nearby location.

Soil or gravel barriers would be used within communities where there is a high potential for residential exposure scenarios. Soil or gravel barriers could also be used to create clean rest stops at strategic locations along the ROW, if the ROW continues to serve as a transportation corridor in the form of a trail. Strategic placement of barriers as rest stops along the ROW would aid in focusing recreational users or other persons accessing the trail toward clean zones and away from those larger ROW and non-ROW flood plain areas where barrier placement is not presently considered feasible. Existing flood plain vegetation may also discourage routine access to those areas.

ACP would facilitate a conversion of the ROW to a trail and be an appropriate barrier for the rail bed portion of the ROW. ACP could be applicable to the entirety of the mainline rail bed within the 71.5 miles under such a scenario. ACP could also be used as a barrier for other high traffic portions of the ROW associated with a trail, such as parking lots, other access points, and viewing areas.

- Implementability
  - Containment activities have been readily implementable using locally available construction equipment for all the identified types of barrier materials within the UPRR ROW and other portions of the BHSS, in areas of the ROW that are outside the routinely active portions of the flood plain.
    - Barriers placed in areas of the ROW that are within the routinely active portions of the flood plain would be subject to erosion and/or recontamination at the next flood event until effective source control is implemented in upstream areas.

by complying with the rules and regulations established by these agencies for the facility, including close coordination with the affected communities.

- Consolidation of contaminated materials in a secure disposal facility, regardless of size, would be effective in the long term, provided that there is appropriate maintenance of the disposal facility to ensure continued security.
- Because of the need to transport contaminated materials from removal locations to a containment area or impoundment, there would be a slightly increased short-term potential for human health or environmental exposure, due to increased highway traffic and the possible release of contaminants during transport.
  - These exposure potentials can be mitigated through implementation of proper precautionary measures prior to and during such actions.

- Cost
  - Direct costs per unit volume for on-site disposal of contaminated materials would be dependent upon the haul distance from the removal area to the disposal facility.
    - In general, direct costs would be expected to be low to moderate, assuming that ~~the primary~~ disposal facility would be ~~the CIA at the BHSS~~, and that there would be no tipping fee imposed for disposal there. (sited within the Basin)
      - Haul distances to the CIA from portions of the ROW within the Upper and Lower Basin and along the east side of Lake Coeur d'Alene are moderate.
      - Haul distances to the CIA from portions of the ROW west of Lake Coeur d'Alene would be longer, but not excessive.
  - Direct costs per unit volume for off-site disposal would be dependent upon tipping fees charged by the repository and the extent of precautionary requirements mandated for transport of the materials that must be hauled to the facility.
    - Tipping fees would depend upon the classification of the material to be disposed (much higher for hazardous materials).
    - Transportation costs would depend upon the distance from the removal area to the repository and the precautions that would be required to ensure safety during transport.
  - Indirect costs per unit volume of material disposed in an existing facility (either on-site or off-site repository) would be expected to be relatively low
  - Indirect costs associated with consolidation of materials under a containment barrier would be slightly higher, due to the need for design of a secure containment and oversight of the construction. However, the overall indirect costs of such disposal actions are also expected to be relatively low.
  - Operation and maintenance costs associated with disposal of contaminated materials would be expected to be relatively low.
    - The anticipated volume of materials to be disposed in a localized consolidation setting is expected to be small.
    - The proportionate volume of materials removed from the ROW for disposal will be small, relative to the overall volume of materials to be disposed of in the CIA from other BHSS response actions and the available capacity of that facility.

Selective removal and disposal of contaminated soils from key areas of the ROW, in preparation for implementation of other response actions, will serve to enhance the effectiveness and acceptability of those response actions and the overall remedy. The extent to which such removals are implemented should reflect consideration of the available disposal capacity within a

### 5.2.1 Institutional Controls

ICs are not effective in terms of improving conditions along the ROW, but can be effective in terms of reducing the potential for exposure to people. Similar to the discussion above with respect to implementability, ICs would also be most effective if the ROW were to remain intact under the control of a single entity, allowing for uniformity of ICs application and enforcement throughout the length of the ROW. Localized ICs programs could be developed and implemented by various jurisdictions. However, potential differences in the respective programs could reduce their overall effectiveness. A discussion of the relative effectiveness of the group of ICs being considered is as follows:

Education - Could provide the greatest long-term effectiveness ~~because it would be permanent once implemented and~~ could be periodically supplemented to reflect possible changing conditions. Education would likely be most effective with the local residents. As the most significant repeat users of the ROW, they would readily become familiar with conditions, risks, and appropriate precautions. This education would also be helpful in mitigating possible exposures in areas outside the ROW, which may be accessed by ROW users. Education would be less effective with visitors to the area, due to limited interaction and familiarity, and overall, the effectiveness of education would depend upon wide dissemination of information.

Signs and Notices - Could be effective to reinforce education and to alert visitors to potentially hazardous conditions. Information conveyed through signs and notices can be global in nature but would likely be most effective if it were location specific. A problem with global warnings is the "out of sight, out of mind" syndrome. Location specific signs would draw the attention of ROW users to specific conditions. As with education, signs and notices would also be helpful with respect to off-ROW areas. To remain effective, signs and notices would require periodic renewal, to reflect current conditions.

Physical Barricades - could provide more positive control of unauthorized/undesirable public access to an area than would signs, etc. Fences, for example, physically restrain persons more effectively than signs and require a conscientious intent and effort to circumvent. Physical barriers could be most effective in terms of directing or confining activities to areas that have the least risk. Physical barriers would, however, require periodic maintenance to remain effective.

Legal Land-use Restrictions - could be most effective in developed areas, where an organization may be in place to monitor and enforce compliance. Such ICs could be effective in limiting exposures that could result from long-term situations (e.g., residential yard encroachments) and be beneficial in enhancing the performance of containment barriers but would have minimal, if any, effectiveness in reducing short-term exposures (e.g., unauthorized entry to an area).

Controls on Activities Within the ROW - Effective in reducing short-term exposures provided that an appropriate organization is in place to monitor and enforce the established rules and regulations. Such controls would be most effective in the populated areas (where they can more effectively be monitored), and the best prospects for compliance would be in connection with activities conducted by established, regulated entities (e.g., utilities contractors, etc.). If reversion of the ROW were to occur, such controls would be more

~~As discussed in Section 4, the CIA would be utilized as the disposal facility for materials removed from the ROW.~~

Hot Spots

As a first-priority response action, to eliminate acute exposure risks along the ROW, a program to remove visually identifiable hot spots would be implemented. Although localized accumulations of concentrates are expected to be found primarily in former loading/unloading areas of the ROW, such hot spots should be removed from wherever they are found. Experience has shown that these materials will be found in limited quantities, and that they will be located on the surface or near surface, rather than extending to depth.

Track and Tie Removal/Salvage

The existing tracks and ties help to reinforce and retain the underlying ballast material in place. Removal of the track and ties will temporarily reduce the containment provided by these components of the current structure and may increase the potential for mobilization of the ballast under overtopping flood conditions. Accordingly, salvage actions within flood prone areas would be conducted in a manner that will limit the period of time between removal of the track and ties and implementation of subsequent components of the response action for that area.

Sidings

To address the potential for higher exposure risks associated with possible spillage of concentrates in siding areas during rail car loading/unloading or shunting activities, all siding ballast materials would be removed and disposed in the CIA, or other similarly appropriate facility. Where removal of siding ballast results in the creation of a depression along the length of the siding, the depression should be backfilled to restore a uniform surface grade, consistent with the adjacent ground in the lateral zone of the ROW, in preparation for placement of protective barrier materials and development of a rest area for ROW users, as described under the heading "Rural Sidings" in Section 6.2 above.

Upland Areas (Reservation)

Within the upland areas west of Lake Coeur d'Alene the ballast material and localized accumulations of concentrates are essentially the only sources of contamination. This portion of the ROW is also generally outside the limits of the flood plain and not subject to recontamination from off-ROW sources. Accordingly, the main line ballast material within this area would be removed, along with any hot spots and siding area ballast. These materials would be disposed of in the CIA, or other suitable, cost-effective repositories.

Such removals should also include any concentrates or ballast materials remaining from the 1955 abandonment of a portion of the main line in the vicinity of Plummer Junction. Upon removal of the hot spots and ballast material and, thus, essentially all of the lead and other heavy metal contamination from the area, no further response actions should be required to address human health or environmental concerns.

Complementary to Barrier Placement